

**METHOD AND APPARATUS FOR ENCODING WITH UNEQUAL  
PROTECTION IN MAGNETIC RECORDING CHANNELS HAVING  
CONCATENATED ERROR CORRECTION CODES**

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**ABSTRACT OF THE DISCLOSURE**

An encoder and method of encoding data words are provided, which map a block of at least one of the data words into an error correction code (ECC) code word. The ECC code word is defined by a plurality of multiple-bit ECC symbols which are separated by boundaries. Bit patterns are constrained from 10 occurring in the ECC code word based on a relative location of the bit patterns to the boundaries.

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